



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
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DOVER, DELAWARE 19901

OFFICE OF THE  
SECRETARY

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**SECRETARY'S ORDER No. 2009-W-0003**

**RE: SUSPENSION OF CLASS-D LICENSE # 2464**

**To:** Mr. Bruce Bagley  
420 Cosden Road  
Barclay, MD 21607

***I. BACKGROUND***

Class-D licenses are issued in accordance with the State of Delaware Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems (Regulations) and subject to approval from the On-Site Systems Advisory Board (Board). Class-D licensees are authorized to perform tasks such as feasibility studies, site soil evaluations, percolation and permeability tests, and hydraulic conductivity tests.

Per Section 4.07000 of the Regulations, the Board serves at the discretion of the Secretary of the Department of Natural Resources and Environmental Control (Department) to provide advice on the Department's issuance of Class-D licenses and other license matters.

Over the course of two years, the Board reviewed two Manager's Warnings which listed multiple violations and discrepancies regarding work submitted to the Department by Mr. Bruce Bagley. The following documented discrepancies were provided by members of the Ground Water Discharges Section (GWDS):

**Manager's Warning** dated 6 Feb 06—The following contains a listing of the site evaluations which reveal errors and discrepancies discovered as the result of either field checks, paper review or both along with a brief synopsis of the problems encountered (this synopsis is not an exhaustive compilation of every error noted):

**David Steinhauer; KH 43.00-02-77.01, Lot 3** – Gravity (CF) submitted with limiting zones of 48" and 56". Site inspected by Department and water observed at 44". Site evaluation changed to LPP (FD).

**Ellen Shultie Hart; MN 178.00-01-01.00** – Alternative micro drip irrigation submitted with limiting zones of 18" and 19". Site inspected by DNREC and redoximorphic features observed between 8" and 14". A denial letter for alternative system issued; pretreatment was required.

**Ellen Shultie Hart; MN 178.00-01-02.00, Lot 4** – Full depth gravity (option 1) with limiting zone of 62" and LPP (FD) (option 2) with limiting zone of 38". Site inspected by DNREC and redoximorphic features observed at 22". Site evaluation changed to an elevated sand mound.

**Ellen Shultie Hart; MN 178.00-01-02.00, Lot 3** – LPP (FD) submitted with limiting zones of 45" and 46". Site inspected by DNREC and redoximorphic features observed at 22" and 23". Site evaluation changed to elevated sand mound.

**Ellen Shultie Hart; MN 178.00-01-02.00, Lot 2** – LPP (CF) submitted with limiting zones of 27", 27", 27" and 28". Site inspected by DNREC and additional test pits dug by soil scientist. Limiting zones revised to 27", 24", 24", 20" and 27". Elevated sand mound added as option 2 to site evaluation.

**Ellen Shultie Hart; MN 178.00-01-02.00, Lot 1** – LPP (CF) submitted with limiting zones of 28" and 33". Site inspected by DNREC and additional test pits dug by soil scientist. Limiting zones revised to 27", 21", 27" and 20". Elevated sand mound added as option 2 to site evaluation.

**Brian Bright; WD 99.00-02-11.00, Lot 2** – Micro irrigation drip (option 1) and elevated sand mound (option 2) with limiting zones of 22" and 24". Site inspected by DNREC and redoximorphic features observed at 16" and 17". Insufficient area observed to site an initial and spare system; additional soils work required. Denial letter for alternative system issued; pretreatment was required.

**Brian Bright; WD 99.00-02-11.00, Lot 3** – Micro irrigation drip (option 1) and elevated sand mound (option 2) with limiting zones of 23" and 23". Site inspected by DNREC and redoximorphic features observed between 16" and 19". Insufficient area observed to site an initial and spare system; additional soils work required. Denial letter for alternative system generated; pretreatment was required.

**Brian Bright; WD 99.00-02-11.00, Lot 1** – LPP (CF) submitted with limiting zones of 28" and 32". Site inspected by DNREC with limiting zone of approx 23" or shallower. Insufficient area observed to site an initial and spare system; additional soils work required. Most of remainder of site contains fresh water wetlands. The proposed subdivision must be approved and recorded by County. Denial letter for alternative system issued.

**White Tail Run LLC; MN 146.00-01-18.00** – Micro irrigation drip or elevated sand mound submitted with limiting zone of 20". Site inspected by DNREC and water observed at 11". Was to send Denial letter but received call from soil scientist stating owner does not wish to pursue the RAV therefore site on hold.

**Joseph Richards; LC 48.00-01-24.00** - Micro irrigation drip or elevated sand mound as a replacement submitted with a limiting zone of 20". Site inspected by DNREC and redoximorphic features observed at 13". Site evaluation revised to reflect new limiting zone.

**Lacrosse Homes of DE; NM 102.02-03-15.00, Lot 15** – Gravity (CF) submitted with limiting zones of 49". Site inspected by DNREC and redoximorphic features observed at 30". Site evaluation revised to LPP (CF).

**Lacrosse Homes of DE; NM 102.02-03-09.00, Lot 9** – Gravity (FD) submitted with limiting zones of >60". Site inspected by DNREC and redoximorphic features observed at 54". Site evaluation revised to gravity (CF).

**Lacrosse Homes of DE; NM 102.02-03-38.00, Lot 38** – Gravity (FD) (option 1) submitted with a limiting zone of 60". Site inspected by DNREC and redoximorphic features observed at 52". Site evaluation revised to gravity (CF).

**Lacrosse Homes of DE; NM 102.02-03-39.00, Lot 39** – Gravity (CF) (option 1) submitted with a limiting zone 52". Site inspected by DNREC and redoximorphic features observed at 47". Site evaluation revised to LPP (FD).

**Lacrosse Homes of DE; NM 102.02-03-41.00, Lot 41** – LPP (FD) (option 1) submitted with a limiting zone of 46". Site inspected by DNREC and redoximorphic features observed at 35". Site evaluation revised to LPP (CF).

**Daniel Humphries; 4-30-6.00-47.01** – Elevated sand mound with 20" limiting zone for creation of new lot. Site inspection demonstrated limiting zones of 15" which requires advanced treatment in conjunction with an elevated sand mound. Revised site evaluation reflects the necessary changes.

**Raymond Paul; 2-34-15.00-201.00, Lot 13** – Submitted for a LPP system with a 27" limiting zone assigned. Previous site evaluation from 1996 submitted for as a denial with a limiting zone of 13". Site inspection discovered a layer of fill approximately 9" deep over existing soil with a limiting zone of 13" which requires advanced treatment and, in this case, must utilize an elevated sand mound sand-lined to 12" to mitigate the fill and site disturbance. Revised site evaluation reflects the necessary changes.

#### **Paperwork Discrepancies Associated with Site Evaluations**

##### **Plot Drawing**

No north arrow - 11 site evaluations  
No scale – 3 site evaluations  
Incorrect scale – 2 site evaluations  
Scale exceeded 100' – 5 site evaluations  
Scale at odd number (75')  
No reference points  
No slope/direction - 4 site evaluations  
No on site well

No well arc  
No adjacent wells – 3 site evaluations  
No hatching of soil borings – 2 site evaluations  
Hatching not fully completed when different system types provided - three site evaluations  
No lot dimensions – 2 site evaluations  
Incorrect lot dimensions  
No roadway shown

### **Soil Profile Notes**

No depths of soil horizons  
Incorrect soil series  
Profile notes not fully completed  
Profile notes missing from evaluation  
No percolation rate  
Profile note page not signed

### **Site Evaluation Report**

Report page not signed  
Percolation rate provided on profile notes does not match approval page – 4 site evaluations  
Soil boring numbers incorrectly stated on evaluation  
Zoning form not provided – 2 site evaluations  
Two different zoning forms provided  
Incorrect zoning form – 2 site evaluations  
Incorrect parcel number provided on approval page – 2 site evaluations  
Limiting zone on approval page does not match soil profile notes  
Illegible site evaluation; copy smeared

### **Fieldwork**

Incorrect limiting zone; system type change required – 16 site evaluations  
Soil boring flags do not match plot drawing

**Manager's Warning** dated 31 Jul 08— The following serve as a brief synopsis of the errors and inconsistencies noted by the GWDS on selected projects. It is important to note that the text of this letter does not include every project for which either an error or inconsistency was noted.

### **Site Evaluations**

#### ***Kent County***

**John Moore; P/O NM 109.00-02-38.09, Lot 1** – Received 8/4/06 and Approved 2/6/07 (field checked). The report was submitted for either an elevated sand mound (ESM) or an Innovative/Alternative (I/A) technology and micro-irrigation system with an estimated LZ of 20". During the field check the GWDS encountered apparent redoximorphic features at 18". OWTDS type changed to either I/A technology micro-irrigation system or an ESM with

advanced treatment. Distances between soil borings (SB) measured by the GWDS did not correspond with those scaled from the sketch.

**John Moore; P/O NM 109.00-02-38.09, Lot 2** – Received 8/4/06 and Approved 2/6/07 (field checked). The report was submitted for two options. One option was for either an ESM or an I/A technology micro-irrigation system with an estimated LZ of 22". The other option was for either an ESM with advanced treatment or an I/A technology micro-irrigation system with an estimated LZ of 18". The GWDS encountered apparent redoximorphic features at 13" in both option areas during the field check. System type changed to either an ESM with advanced treatment or an I/A technology micro-irrigation system with advanced treatment. Distances between SB measured by the GWDS did not correspond with those scaled from sketch.

**John Moore; P/O NM 109.00-02-38.09, Lot 3** – Received 8/4/06 and Approved 2/6/07 (field checked). The report was submitted for two options. One option was for a capping-fill LPP (CFLPP) system with an estimated LZ of 27 inches. The other option was for either an ESM or an I/A technology micro-irrigation system with an estimated limiting zone of 22". The GWDS encountered apparent redoximorphic features at 20" in option 1 area and 18" in option 2 area during the field check. System type changed to either an I/A technology micro-irrigation system or an ESM with advanced treatment at option 2 area. Distances between SB measured by the GWDS did not correspond favorably with those scaled from sketch.

**Wayne Collison; MN 159.00-01-28.00, Lot 6** – Received 7/9/07 and Approved 7/16/07 (field checked). The report was submitted for a full-depth gravity (FDG) OWTDS with an estimated LZ of 60 inches. The GWDS encountered apparent redoximorphic features at 55 inches during the field check. System type changed to CFG.

**Marcia Bell; KH 54.00-01-40.03** – Received 8/6/07 and Approved 8/30/07 (field checked). The report was submitted for an CF LPP with an estimated LZ of 31" as option 1 or ESM with an estimated LZ of 24" as option 2. The GWDS encountered apparent redoximorphic features at 11 inches in the vicinity of SB 2 during the field check. The site evaluation sketch did not show all structures in back yard including a concrete pad located within the hatched area. The GWDS considers the concrete pad an encumbrance that per Section 5.01080(k) should have been shown. No tax ditch ROW information included with report as required by Section 5.01080(k) and GWDS Memo dated 11/15/06. The Report was revised to exclude option 2 area.

### ***Sussex County***

**Charles E. Kersey; 1-30-11.00-3.05** – Received 11/20/06 and Approved 1/9/07 (field checked). The report was submitted for two options. One option was for a FDLPP with an estimated LZ of 36 inches. The GWDS encountered apparent redoximorphic features at 27 inches during the field check. System type changed to CFLPP. The other option was for a CFLPP with an estimated LZ of 27 inches. The GWDS encountered apparent redoximorphic features at 24 inches during the field check. The system type changed to an ESM.

**Bruce Vaden; 5-30-12.00-16.00** – Received 11/22/06 and Approved 12/19/06 (field checked). The report was submitted for either an I/A technology micro-irrigation system or an ESM with advanced treatment with an estimated LZ of 19". The GWDS encountered apparent

redoximorphic features closer than 19" to the soil surface in portions of the hatched area during the field check. The GWDS refined the area during the field check to conform to an approximate 19-inch LZ by performing a number of shallow SB. The GWDS used one iron pipe, two utility poles and a tape measure to recreate the sketch and to locate the GWDS SB. Based on measurements made by the GWDS portions of the hatched area on the sketch submitted as part of the report were not located in the area of the property having a LZ of 19" or greater. No tax ditch ROW information included with report as required by Section 5.01080(k) and GWDS Memo dated 11/15/06.

**Adrian Sermon; 5-33-4-56, Lot 10** – Received 6/28/07 and Approved 8/6/07 (field checked). The GWDS confirmed the system type as being a sand-lined ESM during the field check. No recorded easements and/or ROW from record plat as required by Section 5.01080(k) of the Regulations and the 11/15/06 Memo. When the GWDS reviewed the recorded plat for easements at Sussex County Recorder of Deeds it was noticed that the configuration of lot on the sketch did not match the configuration of the lot on the record plat, but did match the parcel as shown by tax maps maintained by Sussex County.

**John Majewski; 3-34-10.00-209.00, Lot 10** – Received 4/18/07 and Approved 5/10/07 (not field checked). The LZ on the approval page does not match either the LZ on the report page or the soil profile notes (SPN). No lot dimensions on sketch. No recorded easements and/or ROW from record plat as required by Section 5.01080(k) of the Regulations and the 11/15/06 Memo. No parcel size given as required by Section 5.01080(a). No proof of recordation date for lot less than 1/2 acre as required by Section 7.02010.

**Three Arch Street Investment Partners; 2-30-14.00-117.00, Site B** – Received 6/21/07 and Approved 7/20/07 (field checked). The report was submitted for a CFLPP with an estimated LZ of 27". A previous site evaluation estimated a LZ of 19". The GWDS encountered apparent redox features at approximately 20" in the rear of the property and at approximately 27" up-slope in the in the middle of the property. A dirt and gravel driveway observed by the GWDS on the property was hatched on the sketch as being feasible for a CFLPP system. No slope percentage on sketch. A permeability rate of 20 MPI was estimated on the SPN, but 30 MPI was listed on the Approval and Report pages. Adjacent wells preclude the use of a CFLPP system (would have to be an ESM per Exhibit C unless adjacent wells are relocated or placed in a confined aquifer), but no mention of this in report. Aerial photograph shows a structure (about 20' x 55') in area represented by SB-2, but no SB performed in this area to evaluate for disturbance.

**Educational Benefit Trust; 1-32-7.00-110.00** – Received 8/9/07 and Approved 8/21/07 (field checked). The report was submitted for two options. One option was for a CFLPP with a LZ of 28". The other was for an ESM with a LZ of 25". The GWDS refined the areas for each system during the field check by means of SB. The refinement resulted in the area feasible for an ESM being larger and the area feasible for the CFLPP being smaller than depicted on the sketch. The sketch did not show a concrete pad located in the area hatched as being feasible for a CFLPP (considered an encumbrance per Section 5.01080(k)). The report states that no survey control was available, but the GWDS located a concrete monument at one back corner. No aboveground utilities shown on sketch as required by Section 5.01080(n). Sketch states that "All other wells >150'," but septic permit for property to the left shows well location is within 100 feet of a

portion of the hatched area. No documentation in report regarding a record search for well on adjacent property as required by Section 5.01035. No slope arrows on sketch.

**Mary McHale; 1-34-15.00-61.01** – Received 10/10/07 and Approved 10/31/07 (not field checked). Site location sketch identifies incorrect property. States on sketch that "Based on review of record plat no easements exist on this property." The GWDS reviewed the record plat, located recorded easements and noted them on sketch.

**Allan Smith; 2-32-12.19-133.00** – Received 12/19/07 and Approved 1/3/08 (not field checked). The following is written on the sketch "No current easements exist on this property per owner." It is the opinion of the GWDS that site evaluator is responsible for the review of record plat for easements per Section 5.01080(k) and the GWDS Memo dated 11/15/06. No overhead lines were shown on the sketch, but a utility pole was shown near or at back property corner suggesting utility lines along the back property boundary. The GWDS noted on the sketch that the electric company who owns the utility pole along the back property line must be contacted to determine if the pole is associated with an easement. The utility company was contacted by a designer and claimed that there is an easement of 10 feet from the base of the poles.

**R. S. Bauer Prop., Inc.; 2-30-26.00-5.12, Lots 1 through 5** – Received 12/27/07 and Approved on 01/18/08 (not field checked). Based on information received after approval, reports placed on Hold on 2/7/08. Laurel Oak e-mailed survey on 2/7/08 to the GWDS showing new proposed lot lines and surveyed locations of SB. The issue is that locations of SB as determined by Laurel Oak are off as much as 50' compared to those located by the surveyor. As per the sketch, Laurel Oak found three iron pipes to use as control for measuring purposes. No resubmission to date.

**Nicholas Sellazo; 3-34-1.00-227.00** – Received 4/8/08 and Approved 4/22/08 (not field checked). States on site evaluation sketch that "No easements exist per review of Record Plat at Sussex County." DNREC understands that the evaluator wrote this on the sketch prior to a review of the record plat by the designer's representative. The designer's representative added recorded easements to report. No proof of recordation date for lot less than ½ acre as required by Section 7.02010. The designer's representative added the plat recordation date to report per review of record plat.

**RW & WD Invest.; 1-32-7.00-14.08, Lot 18** – Received 3/12/08 and Approved 3/28/08 (not field checked). No north arrow on sketch. No lot dimensions on sketch. No easements and/or right-of-ways from recorded subdivision plan as required by Section 5.01080(k) and GWDS Memo dated 11/15/06. No proof of recordation date for lot less than ½ acre as required by Section 7.02010. Representative of designer added per review of record plat.

***Woods of Oyster Rock Subdivision (Signature Homes, Inc.)***

**Signature Homes, Inc., 2-35-16.00-44.04, Lot 83** – Received 11/12/07 and placed on Hold on 2/29/08 (field checked). The GWDS agrees with system type per the field check, but requested that the LZ be changed from >72" to 60" based on redox features and depth to free water (DTFW) of 71" during the field check. No resubmission to date.

**Signature Homes, Inc., 2-35-16.00-44.05, Lot 84** – Received 11/12/07 and placed on Hold on 2/29/08 (field checked). The GWDS used staked front corners and a tape measure to locate soils borings (SB). The GWDS confirmed the location of SB 84-1, but not SB 84-2. SB 84-2 was located out of the hatched area. The GWDS estimated a LZ of 16" in the hatched area and not the 25 to 27-inch LZs documented by Laurel Oak. This information changes the system type from a LPP and an ESM to possibly an I/A technology system with advanced treatment. DTFW in GWDS borings ranged from 18 to 22" below the mineral soil surface. The GWDS encountered a very firm fine-textured sediment adjacent to SB 84-2 that was not apparently encountered by Laurel Oak. The estimated design rate of 30 MPI does not correspond to the sediments encountered by the GWDS. Sediments encountered within 60" of the mineral soil surface during the field check have an estimated permeability rate of slower than 120 MPI. No resubmission to date.

**Signature Homes, Inc., 2-35-16.00-44.06, Lot 85** – Received 11/12/07 and placed on Hold on 2/29/08 (field checked). Using staked front corners and a tape measure the GWDS determined that locations of SB shown on the sketch might not be accurate. The GWDS estimated a LZ of 20" in the hatched area and not the 24 to 27-inch LZs documented as part of the site evaluation. This information changes the system type from a LPP and ESM to possibly an I/A technology system. DTFW in GWDS borings ranged from 28 to 32" below the mineral soil surface. The GWDS encountered a very firm fine-textured sediment adjacent to SB 85-1 and 85-2 that was not apparently encountered by Laurel Oak. The estimated design rate of 30 MPI does not correspond with the sediments encountered by the GWDS. Sediments encountered within 60" of the mineral soil surface during the field check have an estimated permeability rate of slower than 120 MPI. No resubmission to date.

**Signature Homes, Inc., 2-35-16.00-44.07, Lot 86** – Received 11/12/07 and placed on Hold on 2/29/08 (field checked). Using staked front corners and a tape measure the GWDS confirmed the locations of SB. The GWDS estimated a LZ of 33" adjacent to SB 86-1 compared to the 39-inch LZ determined by Laurel Oak. This information would change the system type from a FDLPP to a CFLPP. A LZ of about 23" was estimated by the GWDS adjacent to SB 86-2 compared to the 38-inch LZ determined by Laurel Oak. This information would change the system type from a FDLPP to an ESM. DTFW of 40 and 31" was measured adjacent to SB 86-1 and 86-2, respectively. The estimated permeability rate of 30 MPI for the hatched area does not correspond with sediments encountered by the GWDS adjacent to 86-1. It is the opinion of the GWDS that an estimated permeability rate of 50 MPI should be assigned. No resubmission to date.

**Signature Homes, Inc., 2-35-16.00-44.08, Lot 87** – Received 11/12/07 and placed on Hold on 2/29/08 (field checked). Using staked front corners and a tape measure the GWDS determined that locations of SB might not be accurate. The GWDS estimated a LZ of 27 to 28" adjacent to SB 87-1 and 87-2, respectively. Laurel Oak determined LZ of 37 and 39" at SB 87-1 and 87-2, respectively. This information would change the system type from a FDLPP to a CFLPP. DTFW of 44 and 40" was measured by the GWDS adjacent to SB 87-1 and 87-2, respectively. The estimated permeability rate of 30 MPI does not correspond with sediments encountered by the GWDS adjacent to 87-1. It is the opinion of the GWDS that an estimated permeability rate of 40 MPI should be assigned. No resubmission to date.

**Signature Homes, Inc., 2-35-16.00-44.09, Lot 88** – Received 11/12/07 and placed on Hold on 2/29/08 (field checked). Using staked front corners and a tape measure the GWDS determined that locations of SB might not be accurate. The GWDS confirmed the 29-inch LZ at SB 88-1. A LZ of 25" was estimated by the GWDS adjacent to SB 88-2 compared to the 28-inch LZ determined by Laurel Oak. This information would change the system type from a CFPP to an ESM in the vicinity of 88-2. DTFW of 37 and 41" was measured adjacent to SB 88-1 and 88-2, respectively. The estimated permeability rate of 30 MPI does not correspond with sediments encountered by the GWDS adjacent to either 88-1 or 88-2. It is the opinion of the GWDS that an estimated permeability rate of 40 and 75 MPI should be assigned to 88-1 and 88-2, respectively. No resubmission to date.

***Cypress Pointe Subdivision (Top Drawer, L.L.C)***

Laurel Oak performed a soil feasibility study on this property during September 2005. A soil feasibility report was submitted to the GWDS on 10/11/05 and a non-binding statement of feasibility letter issued on 10/17/05. Due to observing stakes and observation wells located on the site Scott Kline of the GWDS evaluated the property by means of SB and measuring free water in observation wells during January 2007. Near peak water levels were recorded in observation wells in other areas of Sussex County during the time period of the GWDS evaluation. Based on observed morphology and depth to free water during January 2007 it is the opinion of the GWDS that limiting zones on certain areas of the site are shallower than estimated during the feasibility study. The GWDS supplied Laurel Oak with the information collected before Laurel Oak performed site evaluations. It is the understanding of the GWDS that a number of site evaluations were performed prior to the construction of roads, but not submitted. In addition, the GWDS understands that Laurel Oak revised the original site evaluation sketches to demarcate disturbance on the lots created by site development activities. The GWDS approved lots 26 through 32, 44, 46, 47, 48, 50 and 57 based solely on a paper review. Due to the apparent differences between LZ estimated by Laurel Oak for lots 45, 52, 53, 54, 55 and 56 when compared with information collected by the GWDS these lots were field checked.

It was apparent during the field checks that silt fence had been placed through the lots and that the front of the lots (defined by the GWDS as the area between the silt fence and the subdivision road) had been disturbed during construction activities. Laurel Oak demarcated an area labeled as "Disturbed Area" on the sketches submitted. Based on measurements by the GWDS using property corner stakes and a tap measure it is apparent that areas labeled as "Disturbed Area" by Laurel Oak did not correspond to the location of the silt fence and the limit of disturbance observed by the GWDS. For example, SB-3 on Lot 55 is shown by the site evaluation sketch to be located outside (behind the silt fence) of the "Disturbed Area." However, the GWDS located SB-3 by means of a GPS unit and it was situated in the disturbed area (between the silt fence and the subdivision road). The GWDS encountered approximately 29 inches of fill over the native soil material in the vicinity of SB-3. Based on this information, the GWDS placed lots 45, 52, 53, 54, 55 and 56 on Hold regardless of whether or not the GWDS confirmed the systems prescribed by Laurel Oak. In addition, previously approved site evaluations for lots 26 through 32, 44, 46, 47, 48, 50 and 57 have been Suspended until this issue is resolved.

**Top Drawer, L.L.C., 2-32-5.00-66.00, Lot 45** – Received 05/01/08 and placed on Hold on 5/22/08 (field checked). The report is written for two options: 1) a CFG system and 2) a FDG

system. Three observations to DTFW (41 to 52") within approximately 150 feet of the lot and on a similar landform during January 2007 suggest feasibility for a CFG system and not a FDG OWTDS as stated by the report. In addition, a SB performed by the GWDS during the field check had apparent indicators of seasonal saturation (apparent accumulations of Fe/Mn) at approximately 50". It is the opinion of the GWDS that undisturbed soils on this lot are feasible for a CFG system.

**Top Drawer, L.L.C., 2-32-5.00-73.00, Lot 52** – Received 05/01/08 and placed on Hold on 5/22/08 (field checked). The report is written for a FDG system that was verified by the field check. The sketch by Laurel Oak shows SB-3 located behind the "Disturbed Area." However, SB-3 was located by GPS to be about 31' in front of the silt fence in an area disturbed by construction activities.

**Top Drawer, L.L.C., 2-32-5.00-74.00, Lot 53** – Received 05/01/08 and placed on Hold on 5/22/08 (field check). The report is written for a FDG system that was verified by the field check. The sketch by Laurel Oak shows SB-3 located behind the "Disturbed Area." However, SB-3 was located by GPS to be about 16' in front of the silt fence in an area disturbed by construction activities.

**Top Drawer, L.L.C., 2-32-5.00-75.00, Lot 54** – Received 05/01/08 and placed on Hold on 5/22/08 (field checked). The report is written for a FDG system that was verified by the field check for undisturbed portions of the lot located above the 24-foot contour line. It is the opinion of the GWDS that the area of the lot located below the 24-foot contour line is not feasible for FDG systems based on DTFW information collected during January 2007.

**Top Drawer, L.L.C., 2-32-5.00-76.00, Lot 55**: Received 05/01/08 and placed on Hold on 5/22/08 (field checked). The report is written for a FDG system. Observations to DTFW (50 to 52 inches) within approximately 100 to 150' of this lot and on a similar landform during January 2007 suggest feasibility for a CFG system and not a FDG system. In addition, a SB performed in the hatched area by the GWDS during the field check had apparent indicators of saturation (apparent accumulations of Fe/Mn) at approximately 50". It is the opinion of the GWDS that undisturbed soils on this lot are feasible for CFG system.

**Top Drawer, L.L.C., 2-32-5.00-77.00, Lot 56** – Received 05/01/08 and placed on Hold on 5/22/08 (field checked). The report is written for a FDG system. Observations to DTFW (50 to 52 inches) within approximately 50 to 100' of this lot and on a similar landform during January 2007 suggest feasibility for a CFG system and not a FDG system. In addition, a SB performed in the hatched area by the GWDS adjacent to SB-2 had apparent indicators of saturation (pale matrix chroma with apparent redox features) at approximately 52". It is the opinion of the GWDS that undisturbed soils on this lot are feasible for CFG system.

In addition to the specific issues stated above, the following is a list of the more common errors contained by your reports.

### ***Site Evaluation Sketches***

Sketches for lots in major subdivisions not based on recorded plan  
Incorrect or no scale provided  
Incorrect locations of observations (SB/TP) and structures  
No information regarding recorded easements and/or ROW per recorded plat  
No information regarding tax ditch ROW  
Duplicate SB/TP numbers and/or letters  
No North arrow  
No lot dimensions  
Road name not provided  
Contours within the hatched area not shown/labeled  
Slope percentage and/or direction not provided  
No reference points  
Hatching not closed

### ***Soil Profile Notes***

Signatures not provided  
Signatures are not originals  
Signatures in triplicate (two copies and one original)  
Soil horizon information missing  
Assigned percolation rate does not match Approval Page/Report Page  
Percolation rate does not conform to texture  
LZ does not conform to profile attributes

### ***Site Evaluation Approval/Report Pages***

Signatures not provided  
Incorrect class of designer  
Incorrect lot number provided  
Incorrect parcel number provided  
Incorrect owner and address provided  
Duplicate SB/TP numbers and/or letters  
Incorrect test pit/boring number on approval page, report page and/or sketches

### **Soil Feasibility Study**

**Cedar Grove Ridge Subdivision, 3-34-12.00-5.00** – Report received 05/19/08. Field check performed on 5/28/08. Non-binding statement of feasibility letter issued 06/26/08. It is the opinion of the GWDS that the SPN supplied with the report do not have original signatures, but copies. The SPN for Test Pit (TP) 10 was not signed. The SPN have the GPS coordinates listed as “eastings” and “westings,” but the readings appear to be in decimal degrees. The Plan showing the conceptual lot layout included with the report does not show approximate property line dimensions for the proposed lots. Section 5.01080(a) requires approximate dimensions of

proposed lots be given. The GWDS has received neither SPN with original signatures nor a revised plan showing dimensions of proposed lots prior to the issuance of this document.

### **Observation Well Data**

**Cynthia James, 1-33-9.00-4.20** – Three observation wells (OW) were installed for the 2006-2007 observation period. Notice of Intent to Deny letter dated August 8, 2007, issued based on observation well data collected by the GWDS. Depth to free water (DTFW) data collected by Laurel Oak did not appear to correspond with data collected by the GWDS. The GWDS made only two observations, due to the fact that each observation suggested DTFW within 10 inches of the mineral soil surface. On 1/16/07 Laurel Oak had readings of 12, 19 and 24" to DTFW in OW-1, 2 and 3, respectively. On 1/11/07 the GWDS had DTFW of 0, 2 and 0" to DTFW in OW-1, 2 and 3, respectively. On 1/18/07 DNREC had readings of 2, 5.5 and 8.5" to DTFW for OW-1, 2 and 3, respectively. Laurel Oak's data suggested a denial in the vicinity of OW-1, feasibility for an I/A technology system in the vicinity of OW-2 and feasibility for an ESM in the vicinity of OW-3. The GWDS located the OW using two iron pipes marking the front corners and a tape measure. The locations determined by the GWDS did not correspond (off by as much as 30 feet) with Laurel Oak's.

**Arch Street Associates, 5-31-15.00-30.28** – A Notice of Intent to Deny letter dated November 13, 2006, was issued based on soils information collected by Delmarva Soil Services. Four OW were installed for the 2006-2007 observation period. A Notice of Denial letter dated December 26, 2007, was issued based on observation well and permeability data collected by Laurel Oak and observation well data collected by the GWDS. Depth to water data collected by Laurel Oak did not appear to correspond with data collected by the GWDS. For example, on 01/18/07 the GWDS determined DTFW of 16.5, 18, 19 and 16" in OW-1, 2, 3 and 4 respectively. On 1/19/07 Laurel Oak determined DTFW of 9, 5, 12 and 6" in OW-1, 2, 3 and 4 respectively. On 04/13/07 the GWDS determined DTFW of 8.5, 9, 8.5 and 7" in OW-1, 2, 3 and 4 respectively. On 4/14/07 Laurel Oak determined DTFW of 7, 6, 13 and 8" in OW-1, 2, 3 and 4 respectively. Based on information maintained by the University of Delaware no significant precipitation (0.05 to 0.20 inches) was received at the Georgetown substation between the time periods of observation in January and April. The GWDS located the OW using two iron pipes marking the front corners and a tape measure. The locations determined by the GWDS corresponded well (within 8 to 12 feet) with Laurel Oak's.

## ***II. FINDINGS***

After review of the Regulations, the Department's background investigation and summary report, as well as the Board's recommendation, it has been determined that you have failed to use reasonable care, judgment or the application of your knowledge or ability in the performance of your duties as a Class-D licensee.

## ***III. ORDER***

Therefore, it is hereby ordered as follows:

Effective thirty (30) days after receipt of the Secretary's decision or publication of this Order and in accordance with Section 4.07500 of the State of Delaware Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems, your

Class-D license (#2464) is suspended for a period of thirteen (13) months. Upon expiration of the suspension, you may apply for a license in the same manner in which a new license is obtained. The Department will not accept work performed under your Class-D license during the suspension period.

### **Terms and Conditions of License Suspension**

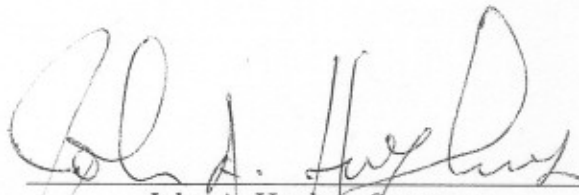
During the period of your license suspension, you shall not contract, advertise, solicit business, receive payment, or perform work as Class D Soil Scientist, except for those contracts that were executed prior to your receipt of this Order and are either in progress or scheduled to commence. In order to maintain the exemption for any such contract, you must submit signed and dated copies of any applicable contract to the Department within twenty (20) calendar days from the receipt of this Order.

After the suspension period has expired, you may submit an application for a license pursuant to requirements of the *Delaware Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems*.

### **APPEAL**

You may appeal this Order to the Environmental Appeals Board within twenty (20) days after receipt of the Secretary's decision or publication of the decision, pursuant to Section 4.08000 of the *Delaware Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems* and 7 Del. C. § 6008.

DATED: 1/12/2009

  
John A. Hughes, Secretary

JAH:DBS:mg

cc: Katherine Bunting-Howarth, Director of Water Resources  
Dave Schepens, Program Manager II  
Ronald Graeber, Program Manager I  
Devera B. Scott, Deputy Attorney General  
On-Site Systems Advisory Board  
Michael Green, Paralegal  
Katharyn Wright, Environmental Engineer II  
Jennifer M. Bothell, Enforcement Coordinator